STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

2413303

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: DOW *Agreement #:*30-081563

2. Name of applicant: Department of Natural Resources

3. Address and phone number of applicant and contact person:

   South Puget Sound Region
   950 Farman Avenue North
   Enumclaw, WA 98022
   Contact: Matt Provencher
   (360) 825-1631

4. Date checklist prepared: 10/15/08

5. Agency requesting checklist: Department of Natural Resources

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* 5/19/2009
   b. *Planned contract end date (but may be extended):*10/31/2010
   c. *Phasing:* None

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

a.	*Site preparation:*	None
b.	*Regeneration Method:*	Unit will be hand planted within 2 years of harvest
c.	*Vegetation Management:*	Treatment needs will be assessed using current vegetation management guide lines. Control of competing brush within the sale area and along roads will be done in accordance with current guidelines.
d.	*Thinning:*	A survey to determine the need for pre-commercial thinning (PCT) will be conducted at age 15. If it is determined that the stand needs PCT the information gained from the survey will be used to schedule the thinning.

   Roads: Road maintenance including grading, ditch clean out and the repair or replacement of culverts will occur as necessary on new and existing roads.

   Rock Pits and/or Sale: The state owned 1710 and Saddle Mountain Rock Pits will remain open for future use.

Other: Active Brush Lease 35-080740 will be affected by this proposal.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☐*303 (d) – listed water body in WAU:* ☐*temp* ☐*sediment* ☐*completed TMDL (total maximum daily load):*
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* Included in the Road Plan, dated 10/14/2008
☐*Wildlife report:*
☒*Geotechnical report:* Landslide Risk Analysis, dated 11/20/2008
☒*Other specialist report(s):* Informal Conference Note No's. JH024 and JH025
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒*Rock pit plan:* Included in Road Plan, dated 10/14/2008
☒*Other:* Habitat Conservation Plan (HCP), Policy for Sustainable Forests, TRAX, Soil Survey, Forest Resource Inventory System (FRIS), GIS Analysis, WA Department of Fish & Wildlife (WDFW) and Straits Planning Unit Marbled Murrelet Reclassified Habitat Model and RMAP # 240027.

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Referenced documents may be obtained from the South Puget Sound region office in Enumclaw for review during the SEPA comment period.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None

10. List any government approvals or permits that will be needed for your proposal, if known.

☐*HPA* ☐*Burning permit* ☐*Shoreline permit* ☒*Incidental take permit* ☒*FPA* ☒*Other:* Board of Natural Resources Timber Sale approval

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. *Complete proposal description:*

This proposal consists of 79 net acres, plus one acre of right-of-way for new road construction, for a total of 80 net acres of harvest in one forest management unit (FMU). This FMU is in the Lilliwaup WAU within the Hood Canal State Forest in Mason County. The unit has a combination of gentle, rolling topography along with some steeper slopes of up to 80%. The elevation ranges from a low of approximately 1,620 feet on the south slope, to approximately 2,220 feet at the ridge top. There will be a combination of ground based and cable logging in this unit, with ground based logging occurring on areas where the slopes are less than 35%. It is estimated that about 50% of the sale will be ground based, and 50% of the sale will be cable logged.

This sale has 4,339 feet of required roads that will be constructed and 2,543 feet of optional roads that may be constructed. There are also 341 feet of required reconstruction and 3,271 feet of pre-haul maintenance required on the 1540 Road. Rock for this proposal may be obtained from any commercial source or from the existing 1710 and Saddle Mountain Rock Pits on state land. The district engineer designed all road work associated with this proposal.

All streams are protected with HCP required buffers.

In the harvest area, a minimum average of 8 trees per acre or clumps of 40 trees per 5 acres were marked to retain leave trees. All old growth found within the boundaries of the unit was marked as leave trees.

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

This proposal contains stands of second growth Douglas fir with some western hemlock, white pine, red alder and western red cedar. The soil site index averages 115. The origin of this stand is 1942.

The unit contains a few Douglas fir old growth remnants from the original stand. These will remain as legacy and wildlife trees. There are very few snags and little downed wood.

Objectives for this proposal include: generating revenue for the Common School (03), Escheat (09) and CEP&RI (06) trusts; maintaining biological diversity, maintaining the productivity of the site and protecting water quality, fish and wildlife habitat.

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		6,882	3.9	0
Reconstruction		341		0
Abandonment		0	0	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)	19*			

* 2 streams culverts and 17 cross drain culverts.

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description: Sec 34 T23N R04W (harvest)
Sec 27 T23N R04W (harvest)
Sec 26 T23N R04W (1710 Rock Pit, required reconstruction)
Sec 14 T23N R04W (Saddle Mountain Rock Pit)

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b. Distance and direction from nearest town (include road names):

Follow Highway 101 to Hoodsport. From Hoodsport follow Highway 119 north for 7.8 miles. Turn right onto the 1000 Road (also known as the Prices Lake Road). Continue to follow the 1000 Road for 1.8 miles to a fork in the road. Take the right fork to turn onto the 1500 Road. Follow the 1500 Road for 4.2 miles until another fork in the road. Take the left fork to turn onto the 1540 Road. Follow this road for approximately 1.0 miles until the dead end. The sale is adjacent to this area. The nearest town from the unit is approximately 15 miles by road. For the Saddle Mountain Rock Pit: Travel approximately 2/3 of a mile on the 1000 Road and take a left onto the 1200 Road. Travel on the 1200 Road approximately 1.9 miles to the fork; take the left fork to continue up the 1200 Road for approximately 1/3 of a mile to the rock pit. For the 1710 Rock Pit: Follow the 1000 Road for approximately 3 miles and turn right onto the 1700 Road. Follow the 1700 Road for approximately 1.5 miles to the 1710 Road. Follow the 1710 Road approximately 2/3 of a mile to the end of the road to access the pit.

c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")

WAU Name	WAU Acres	Proposal Acres
Lilliwaup	30,346	80

WAU Sub-basins	Sub-basin Acres	Proposal Acres
Kvale Creek	3,023	37
Miller Creek	1,014	27
Sund Creek	1,795	16

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)

There are 30,346 acres in the Lilliwaup WAU. 35% is private, 8% federally owned, 1% tribal and 55% is in state ownership. The state manages 16,828 acres. In the past 7 years, the state has harvested about 2,731 acres in regeneration harvests and 367 acres in a partial cut. All regeneration harvests have been reforested. The annual harvest rate is about 1% of the state land base. Private lands have had approximately 1,190 acres under forest practice permits for forest practice activities over the last seven years. This is less than 1% per year on non-state ownership in the WAU.

Future harvests in the WAU for state ownership will continue at or below the same rate. All harvests on state land since 1999 have been under DNR HCP guidelines. All roads will have adequate drainage structures that comply with all HCP and Forest Practice Rules. Future harvest of private land is unknown.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☐Hilly, ☐Steep Slopes, ☐Mountainous, ☒Other: Rolling topography near ridge top transitioning to steep slopes.

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

This proposal lies within the Lilliwaup WAU. There are twelve sub-basins in the Lilliwaup WAU. Elevation in the Lilliwaup WAU ranges from sea level to 4,000 feet with landforms ranging from steep mountains to glacial outwash. Rain-on-snow zones are at the higher elevations with precipitation ranging from 60 to 100 inches per year.

The major timber type in the Lilliwaup WAU is Douglas fir with western hemlock, western red cedar and western white pine. Red alder is the major hardwood species with some big leaf maple, black cottonwood and pacific madrone. The understory is primarily salal and huckleberry with ferns, grasses and mosses in higher areas. Most of the old growth Douglas fir and western hemlock are in federal ownership. Timber on state and private land is made up mainly of second growth Douglas fir.

Most of this WAU was logged by railroad in the 1920's and early 1930's. The age of the timber ranges from two years to eighty plus years with the majority of the age running in the sixty to seventy year age class as a result of natural regeneration after the logging.

The following list is a breakdown of precipitation ranges and rain-on-snow acreages found within the WAU.

Lilliwaup WAU

PRECIPITATION:
2,165 acres with 60 inches per year
14,874 acres with 70 inches per year
9,667 acres with 80 inches per year
2,502 acres with 90 inches per year
1,138 acres with 100 inches per year

RAIN-ON-SNOW:
3,298 acres in Peak rain-on-snow zone
20,624 acres in Lowland zone
6,372 acres in Rain dominated zone

The total acres shown in the rain on snow zones do not reflect the current total WAU acres possibly due to updates in progress on WAU data.

This entire proposal is in the rain-on-snow zone, however because the three sub-basins included in the proposal have less than one-third of their area in the rain-on-snow zone, we are not required to manage for hydrologic maturity. See PR 14-004-060 (3) (a) of the Forestry Handbook.

2) *Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).*

b. What is the steepest slope on the site (approximate percent slope)?

80%, which occurs on less than 5% of the unit.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture	% Slope	Acres	Mass Wasting Potential	Erosion Potential
0019	V. Gravelly Loam	30-50	35	Low	Medium
7218	V. Gravelly Loam	60-90	7	High	High
1915	V. Gravelly Silt Loam	60-90	36	High	High
8223	V. Gravelly Loam Sand	60-90	2	High	Medium

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Yes, see below.

1) *Surface indications:*

In the northwestern portion of the proposed harvest unit there are areas that can be characterized as forest practice rules-identified, potentially unstable landforms (steep [>70% slope], tightly convergent landforms, referred to as "bedrock hollows") with varying degrees of delivery potential of sediment and wood debris to a public resource. However, leave tree clumps have been designated to encompass all of these features, and no timber harvest or road-building operations will occur within or across them.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

There is evidence of recent natural shallow and deep-seated landslides within the Miller Creek, Sund Creek and Kvale Creek sub-basins. In the upper reaches of the three sub-basins, such as where the proposed Dow timber sale is located, shallow landslides tend to occur in steep, tightly convergent landforms, including but not limited to bedrock hollows and inner gorges. The greatest incidence of mass-wasting in the sub-basins, however, appears to be within the glacial deposits in the lower reaches of each sub-basin. In Miller Creek and Sund Creek, shallow and deep-seated landslides washed out roads and culverts downstream. These occurred near the streams themselves and occurred during the December 2007 storm, considered in Mason County to be an extreme precipitation/flood event.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

Mass-wasting events associated with roads have occurred in the past. These are mostly associated with poorly constructed and maintained railroad grades and logging roads constructed in the early part of the last century. The only ones known in the WAU are minor slumps in the Washington Pass area on National Forest land and on a 70-year-old railroad grade in Section 26, Township 24 North, Range 4 West, W.M. They failed because of poor road building practices in the 1930's. This failure was located in a different sub-basin.

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*
☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites:*

Neither watershed analysis nor landslide hazard zonation mapping has been completed for the WAU. The proposed timber sale is situated in the uppermost reaches of the three sub-basins, an area mapped as basalt flows of the Eocene Crescent Formation. Topography overall is moderate to very steep with varying slope morphology (i.e. planar, convergent, divergent). As stated previously, shallow landslides tend to occur in steep, tightly convergent topography, and four such areas were identified in the northwestern portion of the sale. Mitigation measures have been implemented here to reduce the risk for management-related landslide initiation.

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

SPS region geologists and a forest practice forester reviewed this proposal both remotely and on the ground, see Informal Conference Notes JH024 and JH025. The four steep, convergent areas identified in the northwestern portion of the sale are being protected with leave tree clumps that broadly encompass the features. Precluding harvest operations in and falling trees away from these features will prevent potential management-related landslide initiation.

Cable yarding will be used on slopes exceeding 35% and ground based yarding equipment will be used on slopes 35% and less. Typed streams were buffered according to HCP requirements. When yarding, at least one end of the logs will be suspended to minimize erosion and eliminate sediment delivery potential to any public resources.

On the slopes that are less than 35%, proposed regeneration harvest operations will be conducted with tracked, ground based equipment with rubber-tired equipment allowed in some areas. On the slopes greater than 35%, harvest operations will include one end suspension cable logging to proposed landings. Proposed roads are located greater than 200 feet up slope of the landforms, and culverts/crossdrains will be positioned in such a way that no additional surface water will be directed toward the potentially unstable landforms (Kvale, personal communication). No timber harvest or road building will occur within three potentially unstable landforms. All trees on these landforms (and one additional crown width around the features) have been designated as leave trees, and the perimeter trees have been clearly marked with yellow tags. Trees adjacent to these leave tree areas will be felled and yarded away form the features. Leaving these trees standing maintains the natural physical characteristics within the landforms and avoids the adverse impacts of soil compaction, disturbance and altered hydrologic flow.

All roads were designed by the district engineer and approved by the region engineer. Landings will be located at the end of the roads on flat benches and stable ground. See the timber sale area map. Cut banks and fill slopes will be grass seeded after construction

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill. *Approx. acreage new roads:* 3.9 *Approx. acreage new landings:* 2.25 *Fill source:* N/A

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, based on experience, minor erosion could occur from exposed soil on roads, landings and skid trail surfaces.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):* 3.9 acres

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

Road locations are on stable soils and have little potential for sediment delivery to typed streams. Rutting restrictions and properly maintained roads to divert water off road surfaces and onto the forest floor will minimize the potential for erosion. The existing and new roads will be maintained to prevent erosion. To reduce potential for resource damage, road construction and rock haul will not be permitted from October 1 to April 30, unless otherwise approved by Contract Administrator. The Purchaser may submit a "Closed Season Plan" to address measures that will be taken to reduce or control impacts to water, soils, roads and other forest assets. Road construction and hauling will not be permitted, if in the opinion of the Contract Administrator, excessive rutting occurs.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Insignificant amounts of engine exhaust from logging equipment and dust on roads from log truck traffic.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map available at DNR region office, or forest practice application base maps.)*

Yes, water types for this proposal were determined using the Trust Forestland HCP Water Typing System.

a) Downstream water bodies:

Downstream water bodies include Miller Creek, Sund Creek, Prices Lake and Hood Canal.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Stream	4	10	100 feet
Stream	5	8	30 foot Equipment Limitation Zone

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

All Type 4 streams have a 100 foot riparian buffer protecting them. No harvesting will be allowed in the buffers except for the two marked right-of-way areas, where, a strip of timber will be removed to facilitate the construction of roads. Type 5 streams are located in cable harvest areas. There will be no ground based equipment in these streams, although some falling and yarding across these streams may occur. There are no wind buffers required for this proposal.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*
Description (include culverts):

Construction of the 1540 Ext Road and the 1550 Road will require removing timber from the RMZ of one Type 4 stream. Equipment will also be working directly adjacent to this stream for road construction purposes. No activity will occur within 100 feet of other Type 4 stream. Timber falling activities will take place within 100 feet of all Type 4 streams identified in 3.a.1)c).

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

The following is for the entire Lilliwaup WAU*
There is no data available for the individual sub-basins.

SURFACE EROSION POTENTIAL
HIGH -- 1,893 Acres (7%)
MEDIUM-- 4,459 Acres (16%)
LOW -- 19,932 Acres (72%)
VARIABLE -- 44 Acres (0)
DOES NOT APPLY -- 503 Acres (2%)
NO DATA -- 812 Acres (3%)

MASS WASTING POTENTIAL
HIGH – 6,104Acres (22%)
MEDIUM -- 1,995 Acres (7%)
LOW -- 3,600 Acres (13%)
INSIGNIFICANT – 15,069 Acres (55%)
NO DATA -- 874 Acres (3%)

**Reasons for acreage discrepancies in WAU reports are unknown. It is believed that the Lilliwaup WAU discrepancies are due to the large amount of area covered by surface waters such as the Lilliwaup Swamp.*

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?
☐*No* ☒*Yes, describe changes and possible causes:*

The steep incised channels continually have minor slope failures in this WAU. This is a natural process and is unrelated to any forest practice activities. There is no evidence of this within the proposal area.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☒*No* ☐*Yes, explain:*

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒*No* ☐*Yes, describe:*

Roads per square mile in the Lilliwaup WAU: DNR – 4.7
Non DNR – 5.7

11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☐*No* ☒*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

Lilliwaup WAU – 11%
Kvale Creek sub-basin – 17%
Sund Creek sub-basin – 12%
Miller Creek sub-basin – 20%

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

Kvale Creek – 83%
Sund Creek – 73%
Miller Creek – 100%

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

Streams within the WAU have experienced accelerated aggradations in low gradient reaches. In general, the stream systems currently contain excess fine sediments. This occurs primarily from natural storm events. Nomad Creek in Section 2, Township 23 North, Range 4 West W.M., has evidence of stream aggradations. There is no evidence of stream aggradations within this proposal area.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

With proper culvert installation, road construction and regular maintenance, potential runoff will be minimized.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒*No* ☐*Yes, possible impacts:*

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

Some minor runoff may occur from roads during peak flows, but cross drain culverts have been designed and will be installed to direct ditch water onto the forest floor prior to entering any surface water. Periodic maintenance should prevent any failures.

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Insignificant amounts of oil and other lubricants may be discharged inadvertently as a result of heavy equipment use. No oils or lubricants will be disposed of on site.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒*No* ☐*Yes, describe:*

a) Note protection measures, if any.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The frequent spacing of cross drain culverts and ditch outs will minimize the distance water flows before being dispersed onto the forest floor. Consequently, no surface or ditch water flows directly into existing stream channels. No water runoff will be channeled onto exposed soils.

2) Could waste materials enter ground or surface waters? If so, generally describe.

a) Note protection measures, if any.

Waste and hazard materials are prohibited from being disposed of onsite per the contract.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

Riparian areas should intercept any surface runoff prior to entering typed water.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☒*cottonwood,* ☐*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☒*red cedar,* ☐*yellow cedar,* ☒other: Western White Pine
☐shrubs: ☒*huckleberry,* ☐*salmonberry,* ☒*salal,* ☒*other: Vine Maple, Rhododendron*
☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☒*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐*plant communities of concern:* None

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)* 2413303

All merchantable timber will be removed except on average 8 leave trees per acre arranged in a combination of clumps and individual trees scattered throughout the unit. The under-story vegetation will regenerate once the harvest operations are complete. The scattered residual old growth trees within the boundaries of this proposal have been marked as leave trees. Streams and wetlands have buffers that meet HCP requirements along their perimeters. No harvest operations will occur within these buffers, with the exception of the right-of-way. See timber sale area map for buffer locations.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")

Most of the sale is surrounded by timber that is approximately 66 years old, with the exception of approximately 300 feet along the northeast edge that is bordered by a 4 year old Douglas fir plantation.

2) Retention tree plan:

This unit has few snags or large downed logs. Leave trees are marked with blue paint and yellow Leave Tree Area tags. They average 8 leave trees per acre. The unit has a combination of individual trees and leave tree clumps made up of 16 - 63 trees each. All observed residual old growth Douglas fir within the unit were marked and counted as leave trees. The other leave trees are vigorous second growth Douglas fir, western hemlock and red cedar. The wildlife tree clumps will serve to enhance diversity, provide habitat and aid in soil and wildlife protection. Approximately 656 leave trees have been left to preserve structural diversity for wildlife habitat.

c. List threatened or endangered *plant* species known to be on or near the site.

None

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The site will be planted within two years of harvest with Douglas fir and western red cedar.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☒songbirds, ☐*pigeon*, ☐other:
mammals: ☒deer, ☒bear, ☒elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes,* ☐*caves,* ☐*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

Northern Spotted Owl

The proposal area is located in an approximately 66 year old naturally regenerated second growth stand of timber. The stand lacks large/old trees, multiple canopies, large snags and downed wood typical of owl habitat. This proposal occurs in non-habitat lands and is available for the full range of DNR silvicultural activities permitted under the Habitat Conservation Plan in compliance with PR 14-004-120 NORTHERN SPOTTED OWL MANAGEMENT (Westside).

Marbled Murrelet

This proposal is within the HCP Straits Planning Unit, which has a Marbled Murrelet Habitat Model developed from a two year habitat relationship study. The sale area was not modeled as murrelet habitat. This proposal is available for the full range of DNR's silvicultural activities permitted under the Habitat Conservation Plan in compliance with PR14-004-320 PROTECTING MARBLED MURRELET HABITAT.

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

All of western Washington is within the Pacific Flyway. This proposal is not part of an existing nesting area for waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

This proposal conforms to all the 1997 DNR Habitat Conservation Plan (HCP). The HCP includes a number of strategies to enhance and preserve wildlife over time. Specific to this proposal is the riparian strategy to conserve and protect habitat for species that are dependent on aquatic and riparian habitat, and quality leave tree retention which may provide critical elements for upland species and preserve long term site productivity through the maintenance of forest processes.

In addition, individual species and tree types known to have high wildlife use have been retained. Trees with unique characteristics (such as forked or damaged tops) will be retained throughout the proposal to provide current and future habitat for a variety of wildlife species including woodpeckers, sapsuckers, and cavity dwellers. Specifically, we canvassed the area looking for large structurally unique trees to mark or clump around. We enlarged one RMZ to include a large old growth tree. We also marked several trees that had multiple tops. Clumping was the primary strategy used, however several dispersed trees were also marked. Unstable slopes and broadly convergent areas were also selected as leave tree areas. Any tree that is a safety hazard according to Washington State Department of Labor and Industries rules may be cut and substituted with a similar replacement.

1) *Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.*

Species /Habitat: RMZs	Protection Measures: See above
Species /Habitat:	Protection Measures:
Species /Habitat:	Protection Measures:

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6. **Energy and Natural Resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

Does not apply

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Does not apply

7. **Environmental Health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal health hazard due to operating heavy equipment and the minor spillage of fuel and lubrication oils are always present with this type of operation. The risk of forest fire is always present and will be increased for about two years following harvest due to logging slash.

1) Describe special emergency services that might be required.

Response may be needed from the local fire department and paramedics in case of an injury. DNR fire fighters would respond for wildfire.

2) Proposed measures to reduce or control environmental health hazards, if any:

Fire equipment will be required on site during closed fire season. Operations will cease if relative humidity falls below 30 percent.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Equipment for logging, road construction, maintenance and forest products hauling operations will create increased noise during the operating season. None of this is an increase above normal historical use.

3) Proposed measures to reduce or control noise impacts, if any:

None

8. **Land and Shoreline Use**

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

Timber production/forest management

b. Has the site been used for agriculture? If so, describe.

Does not apply

c. Describe any structures on the site.

None

d. Will any structures be demolished? If so, what?

None

e. What is the current zoning classification of the site?

This proposal is not within the Urban Growth Area; it is zoned as long-term commercial forest.

f. What is the current comprehensive plan designation of the site?

Long-term commercial forestry

g. If applicable, what is the current shoreline master program designation of the site?

Does not apply

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify. 2413303

None

i. Approximately how many people would reside or work in the completed project?

None

j. Approximately how many people would the completed project displace?

None

k. Proposed measures to avoid or reduce displacement impacts, if any:

None

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal meets all Forest Practice, the DNR Policy for Sustainable Forests and HCP guidelines.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Does not apply

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Does not apply

c. Proposed measures to reduce or control housing impacts, if any:

Does not apply

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

No structures will be constructed.

b. What views in the immediate vicinity would be altered or obstructed?

View from forest roads would be altered.

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☒*No* ☐*Yes, viewing location:*

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?
☒*No* ☐*Yes, scenic corridor name:*

3) How will this proposal affect any views described in 1) or 2) above?

Mature forest cover will be removed, with the exception of leave trees.

b. Proposed measures to reduce or control aesthetic impacts, if any:

Reforestation will occur within two years following harvest. Individual mature wildlife reserve/green recruitment trees and leave tree clumps will be left in the units. Individual leave trees, leave tree clumps and riparian/wetland zones within the proposal will serve to break up altered views

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Does not apply

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Does not apply

c. What existing off-site sources of light or glare may affect your proposal?

Does not apply

d. Proposed measures to reduce or control light and glare impacts, if any:

Does not apply

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

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Hunting, hiking, recreational mushroom picking and occasional elk watching.

b. Would the proposed project displace any existing recreational uses? If so, describe:

None

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

An old railroad grade goes through the middle of the sale. Old logging cable can be found throughout the sale. Evidence of an old logging camp can be found to the west of the sale area.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

None

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Haul routes will utilize state forest roads before connecting with State Highway 101. See vicinity map.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

None

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No, it is approximately 15 miles by road to the nearest transit stop.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

Yes, all roadwork in this proposal applies to DNR managed roads; 6,882 feet of required and optional roads may be constructed for use during this proposal. New and existing roads will be maintained by grading and repairing as necessary.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

There will be a short-term increase in traffic during the operation period for this proposal due to forest products and equipment hauling. The established forest roads under this proposal will not affect the overall transportation system to the public.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

None

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Peak traffic volumes may occur during the late spring to late summer months. Up to 12-log truck trips per day could be possible. No log truck traffic from this unit after the proposal is complete.

g. Proposed measures to reduce or control transportation impacts, if any:

None

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

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Wildfire would need response from Department of Natural Resources and rural fire protection district. Accidents would need county EMS response.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Does not apply

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: Matt Provencher, Forester, Hoodsport Unit Date: 10/15/2008

~~Reviewed by~~ APPROVED BY: Mark Thibo, Operations Manager MET Date: 12-10-08

Approved by: _____ Date: _____
Randy Acker, South Puget Sound Region Manager